

# CLEVER

ear and forehead thermometer



## User's Manual

ver. 1.0  
2007/10

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## CAUTIONS & WARNINGS

- ▶ As with any thermometer, proper technique is crucial to getting accurate temperature readings. Please read this manual thoroughly and carefully before using.
- ▶ Always store the thermometer in a cool and dry place: temperatures between  $-4^{\circ}\text{F}(-20^{\circ}\text{C})$  and  $122^{\circ}\text{F}(50^{\circ}\text{C})$ ; relative humidity less than 95%. Avoid direct sunlight.
- ▶ Avoid dropping the thermometer from a height or strongly hitting it with a hard object.
- ▶ Do not touch the lens.
- ▶ Do not disassemble the thermometer.
- ▶ Basic safety precautions should always be observed, especially when the thermometer is used on or near children and disabled persons.
- ▶ The use to this thermometer is not intended to be a substitution to consulting your physician.

The forehead temperature is served as a reference only. It cannot be a judgment on fever.

## RESTRICTIONS OF USE

This thermometer is clinically proven to produce accurate temperature measurements. However, please be advised if you have the following situations:

- ▶ The accuracy cannot be ensured for a person who has deformity in the ear such that the thermometer probe cannot be properly inserted into the ear canal.
- ▶ The accuracy cannot be ensured when blood or drainage is found in the ear canal.
- ▶ Take temperature from the other ear if ear drops or medications have been placed in an ear.
- ▶ For a person who wears ear plug or hearing aid, remove the device and wait for 15 minutes before taking temperature.

### **NOTE**

Never try to clean inside the ears. You may accidentally damage the ear drum or its surrounding tissues. Remove excess ear wax only when you can reach it with a clean cloth. Consult a physician if you suspect the presence of excess ear wax.

# INTRODUCTION

Thank you for choosing Clever Ear& Forehead Thermometer.

This innovative medical device leverages on advanced infrared (IR) technology to measure temperature instantly and accurately in two convenient ways: in the ear or on the forehead. An additional function is while resting on a table, an elegant clock displaying room temperature will be presented. Set-up with a color LCD backlight, Clever is an elegantly designed infrared thermometer meant for your family.

## HOW DOES IT WORK

The thermometer measures the infrared heat generated by the eardrum and its surrounding tissue, or the forehead skin surface over the temporal artery. The thermometer then converts it into a temperature value shown on LCD.

### **NOTE**

The thermometer does not send out any infrared signal.

## HIGHLIGHTED FEATURES

- ▶ Provide two body temperatures: ear or forehead.
- ▶ Fast and accurate: meet the accuracy requirement specified in ASTM E1965-98.
- ▶ Non-contact measurement that is no lens filter required, thus saving cost of replacement.
- ▶ Clock and room temperature inter-display.
- ▶ A splash-proof probe that can be wiped using a clean cloth slightly damped with alcohol or water.
- ▶ Automatically power down or back to the CLOCK/RT mode if left unused over 30 seconds.
- ▶ Big cool button improves handling and activation.
- ▶ Nice backlight improves visibility especially in a dark environment.
- ▶ Memory recall function allows you to check previous results up to 20 measurements.

## PACKAGE CONTENTS



Clever Ear & Forehead  
Thermometer



DC 3V type CR2032 Lithium  
Battery  
(Installed in thermometer)

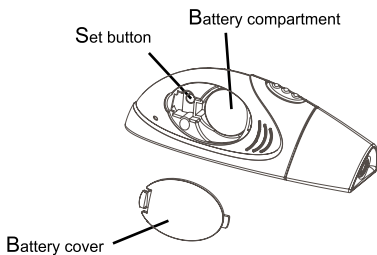
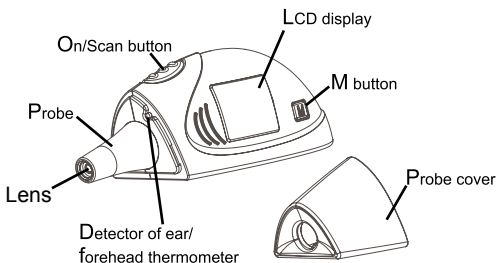


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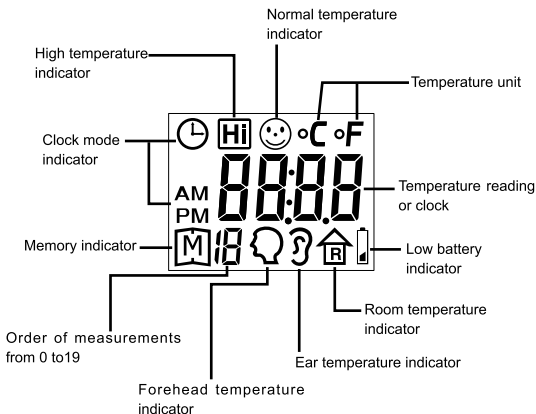
Warranty Card

# THERMOMETER PARTS





# LCD DISPLAY

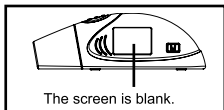


## DISPLAY MODE

Two modes can be selected.

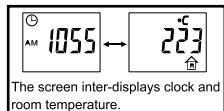
### 1. OFF mode

The thermometer is off.



### 2. CLOCK/RT mode

This mode allows the thermometer to detect room temperature (RT). It also provides clock.

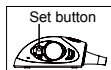


## SET TIME & UNIT

You will need to set time and unit for first-time use or after replacing the battery.

### Step1 Press the Set Button.

▶ "⌚" and the flashing hour appear first.

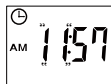


### Step2 Set hour&minute

▶ Press the On/Scan button to select the correct hour.

▶ Press the Set button and the flashing minute then appears.

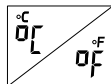
▶ Press the On/Scan button to select the correct minute.



### Step3 Select °F or °C

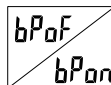
▶ Press the On/Scan button and °F/°C is displayed next.

▶ Press the On/Scan button to select.



### Step4 Select Beeping sound

▶ Press the On/Scan button to select on/off the Beeping sound.



### Step5 Select LCD backlight

▶ Press the On/Scan button to select on/off the LCD backlight.



**Setting is all completed.** Select either of the following two modes to exit setting.


▶ OFF mode: Just leave the meter without pressing. It will be automatically off after 30 seconds.

▶ CLOCK/RT mode: Press the Set button after Step3.

### NOTE

Without pressing any buttons over 30 seconds, the meter will automatically turn off.

## REPLACE THE BATTERY

The thermometer is shipped with one pre-installed DC 3V type CR2032 lithium battery. Replace it when "  " appears. Please follow the steps to replace a new battery.

**Step1** Remove the battery cover.



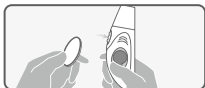
**Step2** Remove the old battery by pressing on the catch (please see diagram above) and lifting up the battery.




**Step3** Place the new battery (with the "+" sign facing upwards) into the battery compartment and press it in until the battery is firmly secured.



**Step4** Re-attach the battery cover.



### NOTE

Although the meter works when "  " appears, we still recommend that you change the battery to obtain an accurate result.

## ABOUT NORMAL BODY TEMPERATURE & FEVER

The body temperature can vary with the individual. It also varies at different parts of the body and different time of the day. The following table<sup>1</sup> shows the statistical normal ranges from different sites. Please keep in mind that temperatures measured from different sites, even at the same time, should not be directly compared.

Fever means that the body temperature is higher than normal. This symptom may be potentially caused by infection, overdressing or immunization. But some people may not undergo fever even when they are ill. These include, but are not limited to, infants not more than 3 months old, persons with compromised immune systems, persons taking antibiotics, steroids or antipyretics (aspirin, ibuprofen, acetaminophen), or persons with some chronic illnesses. Please consult your physician when you feel ill even if there is no fever.

Body Site	Normal Temperature Range
Oral	95.9°F - 99.5°F (35.5°C - 37.5°C)
Axillary(underarm)	94.5°F - 99.1°F (34.7°C - 37.3°C)
Rectal	97.9°F - 100.4°F (36.6°C - 38.0°C)
Ear	96.4°F - 100.4°F (35.8°C - 38.0°C)

1. Chamberlain, J. M. Terndrup, T. E., New Light on Thermometer Readings, Contemporary Pediatrics, March 1994.

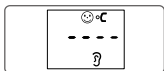
# USE THE DEVICE

## ◎ AS AN EAR THERMOMETER

Remove the probe cover first.  
The meter is now served as an ear thermometer.



**Step1** Press and release the On/Scan button. When ready, the meter beeps and displays " 9 ".



**Step2** Gently fit the probe into the ear canal.



**Step3** Press and release the On/Scan button.  
Remove until the thermometer beeps.



**Step4** Read the result.  
" 9 " is shown together with a temperature value.



### NOTE

- The meter does not require any costly lens filters.
- The meter will automatically return to its initial mode (OFF or CLOCK/RT) if left without use over 30 seconds.

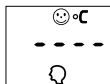
## **Ear Temperature Taking Hints**

1. As with any type of thermometer, you may observe slight variations in consecutive measurements. It is recommended that you take 3 temperature readings and use the highest one for the following situations:
  - ▶ Infants not more than 3 months old.
  - ▶ Children not more than 3 years old and have a compromised immune system and the presence/absence of fever is critical.
  - ▶ When you are learning to use the thermometer.
2. Please free from the following situations at least for 15 minutes before taking a reading.
  - ▶ When you have your ear covered.
  - ▶ After exercising, swimming, or taking a bath. When expose to extreme temperature
  - ▶ During eating and talking.
3. To take accurate readings, the ear must be free from excess ear wax buildup.
4. Please wait at least for 1 minute before next readings because consecutive measurements will increase the ear canal surface temperature.

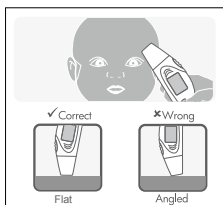
## © AS A FOREHEAD THERMOMETER

**Make sure the probe cover is capped.** The meter is now served as a forehead thermometer.

**Step1** Press and release the On/Scan button. When ready, the meter beeps and displays "Q".



**Step2** Press and hold the On/Scan button. Put the probe on the temple. Make sure the probe is flat on the temple, not at an angle.



**Step3** Release the button and read the result. "Q" is shown together with a temperature value.



### NOTE

- ▶As the forehead temperature is likely to be affected by sweat, oil and the surroundings, the reading shall be taken as a reference only.
- ▶If the probe is placed at an angle on the forehead, the reading will be affected by surrounding temperature.
- ▶You can scan at 3 cm distance from the forehead.

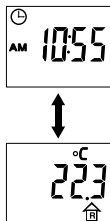
## ◎ AS A CLOCK AND ROOM THERMOMETER

The meter can be served as a clock and can detect room temperature if it is in the CLOCK/RT mode. Make sure the probe cover is capped before starting.

**Step1** Press the Set button until LCD displays like right. The thermometer is now in the CLOCK/RT mode.



**Step2** Place on the table as clock and RT thermometer. The screen inter-displays between clock and room temperature, together with "☺" and "🏠", respectively.





## **TURN OFF THE DEVICE**

After measurements, the meter will back to its initial mode after unused over 30 seconds. That is, if the meter is started from the OFF mode, it will be automatically off after measurements. Likewise, if the meter is started from the CLOCK/RT mode, it will be back to that mode after measurements.

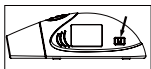
To exit the CLOCK/RT mode, you have to turn off the thermometer.

To turn the thermometer off, press the Set button until the hour or minute is blinking. Leave for 30 seconds without pressing any button. The thermometer is then automatically off.

## RECALL THE MEMORY

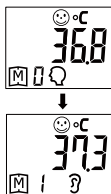
Your thermometer stores 20 recent readings in the memory. Be sure the thermometer is in either "OFF" or "CLOCK/RT" mode before recall.

**Step1** Press the M button to enter the memory.



**Step2** Press the M button to review the result.

Each time you press the **M** button, a result will be displayed in the order of dates (latest result shown first), together with M and number (from 0 to 19).



When the memory is full, the oldest result is deleted as the new one added.

**Step3** Press the On/Scan button to exit the memory.



### NOTE

When using the thermometer at first time, number of memory will flash. It indicates that there are no test results in memory.

## CARE & CLEANING






- ▶ Keep the probe clean, as build-up of ear wax and grease may affect the measurement.
- ▶ The probe is splash-proof and can be wiped by a clean cloth dampened with water or alcohol.
- ▶ The body of the thermometer is not water-resistant. Please never put the thermometer under a running tap or submerge it into water. Use a soft and dry cloth to clean it. Do not use abrasive cleaners.
- ▶ Store the thermometer in a cool and dry location. Please be free from dust and away from direct sunlight.

# RESULT INDICATORS

Message	What it means
	When the measurement is below 100.4°F(38°C), ☺ is shown together with the result.
	When the measurement is equal or over 100.4°F(38°C), <b>Hi</b> is shown together with the result.

## TROUBLESHOOTING

The table below shows problems you may encounter. Please follow "what to do" to resolve problems. If the problem still exists, please call your local dealer for help.

Message	What it means	What to do
	Room temperature falls outside the operating range.	Put the thermometer under operating temperature range of 41°F to 104°F (5°C to 40°C) at least for 20 minutes.
	Battery is low and "  " is shown on LCD.	Please change to a new battery as soon as possible.
 	Temperature measurement falls outside the displayed temperature range: 32-122°F (0-50°C)	Please follow this manual to take a reading again.

# SPECIFICATIONS

Dimensions	105mm(L) x 32mm(W) x 35mm(H)
Weight	45g
Displayed temperature range	32°F to 122°F (0°C to 50°C)
Display resolution	0.1°F /0.1°C
Accuracy	Meet the accuracy requirement specified in ASTM E1965-98 ► ±0.4°F (±0.2°C) for the range of 96.8°F to 102.2°F (36.0°C to 39.0°C) ► ±0.5°F (±0.3°C) from 34 to 35.9°C and from 39.1 to 42.2°C
Temperature unit	°F or °C
Operating temperature range	41°F to 104°F (5°C to 40°C)
Operating humidity	95% RH or less
Storage temperature range	-4°F to 122°F (-20°C to 50°C)
Storage humidity	95% RH or less
Memory capacity	20 measurements

The specification may be changed without prior notice.

# WARRANTY

- 1.Simple Diagnostics warrants this product to be free of defects in workmanship and materials for a period on TWO years from the date of purchase.
- 2.During the warranty period, if this product is found to be defective, you may bring it together with the purchase receipt and Warranty Certificate on a carry-in basis to Simple Diagnostics's office during normal business hours for warranty service. We will then repair or replace defective parts or exchanging the whole product as we may choose, at no charge to the original owner. After such repair, replacement or exchange, the product will be warranted from the date of purchase.
- 3.This warranty is valid only if the Warranty Certificate and Warranty Registration Card are duly completed with date of purchase, serial number and dealer's stamp, and if the Warranty Registration Card is sent to Simple Diagnostics's office not later than 14 days from the date of purchase.
- 4.This warranty is void if this product has been repaired or serviced by unauthorized person. This warranty does not cover defects caused by misuse, abuse, accident, tampering, lack of reasonable care , fire or any other acts beyond human control.
- 5.Except as stated in the above paragraphs, Simple Diagnostics disclaims all other warranties, implied or expressed, including the warranties of merchantability of fitness for a particular purpose with respect to the use of this product. Simple Diagnostics shall not be liable for any direct, consequential or incidental damages arising out of the use or inability to use product.

## NOTES

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## NOTES

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